

# **2025 Annual Ongoing Data Requirements Report**

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## **Data Requirements Rule for the 2010 Sulfur Dioxide Standard**



**Submittal Due Date  
July 1, 2025**

**Missouri Department of Natural Resources  
Division of Environmental Quality  
Air Pollution Control Program**

June 9, 2025

Jim Macy  
Regional Administrator  
U.S. EPA, Region VII  
11201 Renner Boulevard  
Lenexa, KS 66219

Re: 2025 Annual Ongoing Data Requirements Report for SO<sub>2</sub>

Dear Jim Macy:

The Missouri Department of Natural Resources' Air Pollution Control Program (air program) is submitting the state's stand-alone annual ongoing data requirements rule (DRR) report pursuant to the federal data requirements rule (DRR) for the 2010 sulfur dioxide (SO<sub>2</sub>) standard. The annual ongoing DRR report is due to the U.S. Environmental Protection Agency (EPA) on July 1, 2025, to meet the reporting requirements in 40 CFR 51.1205 (b).

The 2025 report addresses four areas where modeling of actual SO<sub>2</sub> emissions served as the basis for designating the areas as attainment/unclassifiable in EPA's Federal Register notice on January 9, 2018. The air program recommends that no additional modeling is needed for all four attainment/unclassifiable areas based on the technical analysis in the attached report.

As required in 40 CFR 51.1205, the air program is making this final stand-alone report available for public inspection and review on our website. The air program also accepted comments on a draft of the report from May 5, 2023, to June 5, 2023. The air program received one comment from City Utilities of Springfield regarding the 2024 Operating Time (hours) for the John Twitty Energy Center listed in Table 3, as well as some typographical errors in the report. The air program revised Table 3 and corrected the typographical errors in the final report as a result of this comment.

Thank you for your attention to this matter. If you have any questions regarding the report, please contact Mark Leath, with the Department's Air Pollution Control Program at P.O. Box

Jim Macy  
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176, Jefferson City, MO 65102 or by phone at 573-526-5503 or by email at [mark.leath@dnr.mo.gov](mailto:mark.leath@dnr.mo.gov).

Sincerely,

AIR POLLUTION CONTROL PROGRAM

A handwritten signature in dark ink, appearing to read "Stephen M. Hall". The signature is fluid and cursive, with the first name "Stephen" being the most prominent part.

Stephen M. Hall  
Director

SMH: ads

Enclosures:  
2025 Annual Ongoing Data Requirements Report

c: Steven (Cody) Brown – U.S. EPA, Region VII – [brown.steven@epa.gov](mailto:brown.steven@epa.gov)  
File# 2025-SO2-DRR-1

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## Purpose and Background

The Missouri Department of Natural Resources' Air Pollution Control Program (air program) prepared this document to satisfy Missouri's obligation to provide a stand-alone annual ongoing data requirements report for the 2010 1-hour sulfur dioxide (SO<sub>2</sub>) primary national ambient air quality standard (2010 SO<sub>2</sub> Standard). This report is intended to fulfill the annual reporting requirements of the federal SO<sub>2</sub> data requirements rule (DRR), 40 CFR Part 51 Subpart BB, "Data Requirements Rule for Characterizing Air Quality for the Primary SO<sub>2</sub> NAAQS". According to the rule, the air program must submit the annual ongoing data requirements report to the U.S. Environmental Protection Agency (EPA) on July 1 each year to meet the reporting requirements in 40 CFR 51.1205(b):

*“(b) Modeled areas. For any area where modeling of actual SO<sub>2</sub> emissions serve as the basis for designating such area as attainment for the 2010 SO<sub>2</sub> NAAQS, the air agency shall submit an annual report to the EPA Regional Administrator by July 1 of each year, either as a stand-alone document made available for public inspection, or as an appendix to its Annual Monitoring Network Plan (also due on July 1 each year under 40 CFR 58.10), that documents the annual SO<sub>2</sub> emissions of each applicable source in each such area and provides an assessment of the cause of any emissions increase from the previous year. The first report for each such area is due by July 1 of the calendar year after the effective date of the area's initial designation.*

*(1) The air agency shall include in such report a recommendation regarding whether additional modeling is needed to characterize air quality in any area to determine whether the area meets or does not meet the 2010 SO<sub>2</sub> NAAQS. The EPA Regional Administrator will consider the emissions report and air agency recommendation and may require that the air agency conduct updated air quality modeling for the area and submit it to the EPA within 12 months.”*

The air program submitted the first annual report in accordance with 40 CFR 51.1205(b) in 2017. The first two reports the air program submitted only included Scott County, because other areas had not yet been designated. On January 9, 2018, EPA designated Jasper, Henry, Greene, and Randolph Counties, as well as a portion of St. Louis County, as attainment/unclassifiable for the 2010 SO<sub>2</sub> Standard, based on an air program modeling analysis using actual SO<sub>2</sub> emissions from nearby facilities.<sup>1</sup> The reports submitted from 2019 to 2021 included six areas in Missouri. In the 2021 report, the air program provided updated modeling and requested the removal of Scott County from the annual report. EPA approved this request in 2022 in accordance with 40 CFR 51.1205(b)(2). In the 2022 report, the air program provided updated modeling and requested the removal of Henry County from the annual report. EPA approved this request in 2023 in accordance with 40 CFR 51.1205(b)(2). Therefore, only four counties in Missouri currently remain subject to the ongoing data requirements report.

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<sup>1</sup> 83 FR 1098, January 9, 2018

## 1. 2024 Annual Emissions

According to 40 CFR 51.1205(b), the air program is required to document the annual SO<sub>2</sub> emissions of all facilities whose actual emissions were modeled and used as the basis for attainment/unclassifiable designations for the 2010 SO<sub>2</sub> standard pursuant to the DRR (DRR Modeled Sources). Table 1 shows the DRR Modeled Sources and their 2024 actual SO<sub>2</sub> emissions. The air program used emission data from EPA's Clean Air Markets Program Data, which is based on continuous emissions monitoring system data measured in compliance with 40 CFR Part 75, Continuous Emissions Monitoring.

*Table 1: 2024 Actual Annual SO<sub>2</sub> Emissions for Missouri's DRR Modeled Sources*

Facility County-Plant ID	Facility Name	County Name	2024 SO <sub>2</sub> Emissions (tons)
189-0010	Ameren Missouri Meramec Energy Center	St. Louis	0
097-0001	Empire District Electric Company Asbury Plant	Jasper	0
077-0039	City Utilities of Springfield Missouri John Twitty Energy Center	Greene	2,538
175-0001	Thomas Hill Energy Center Power Division Thomas Hill	Randolph	10,485

## 2. Comparison of 2024 and 2023 Emissions

In accordance with 40 CFR 51.1205(b), the air program is required to identify emissions increases from the previous year and assess the cause for the DRR Modeled Sources listed in Table 1. Table 2 shows the 2023 and 2024 actual SO<sub>2</sub> emissions and the difference in annual emissions between the two years. As seen in the table, from 2023-2024, emissions decreased or remained constant at three of the four DRR modeled sources. Emissions increased by 29 tons at one source, City Utilities of Springfield Missouri John Twitty Energy Center.

*Table 2: 2023 and 2024 SO<sub>2</sub> Emissions Comparison for Missouri's DRR Modeled Sources*

Facility County-Plant ID	Facility Name	2023 SO <sub>2</sub> Emissions (tons)	2024 SO <sub>2</sub> Emissions (tons)	2023-2024 Emissions Comparison*
189-0010	Ameren Missouri Meramec Energy Center	0	0	0
097-0001	Empire District Electric Company Asbury Plant	0	0	0
077-0039	City Utilities of Springfield Missouri John Twitty Energy Center	2,509	2,538	29
175-0001	Thomas Hill Energy Center Power Division Thomas Hill	11,289	10,485	-804

\* A positive value in the last column indicates an increase in emissions from 2023 to 2024; a negative value indicates a decrease in emissions from 2023 to 2024.

### *2.1 Assessment of Annual Emission Increase from 2023 to 2024*

As Table 2 shows, the annual SO<sub>2</sub> emissions from 2023 to 2024 increased at the City Utilities of Springfield Missouri John Twitty Energy Center by 29 tons. This facility is a coal-fired power plant that provides electricity to the grid for sale to its customers. Year-to-year emission fluctuations at these types of facilities are common due to utilization rates as power generators operate to follow electricity demand, which varies every year. Additionally, in some years, units come down for weeks or months for routine maintenance, adding variability to the emissions in any given year. To determine whether this year-to-year variability in electricity production at this facility was the cause of the emissions increase, the air program analyzed the operational and production data of the two boiler units at this facility in 2023 and 2024, using operational data provided by the facility and production data from EPA's Clean Air Markets Program Data. Table 3 contains these values.

*Table 3: Operating Hours and Gross Load for 2023 and 2024 at City Utilities of Springfield Missouri John Twitty Energy Center*

Facility County-Plant ID	Facility Name	Year	Unit ID	Operating Time (hours)	Operating Time (total hours)	Gross Load per Unit (Megawatt-hour)	Gross Load Total (Megawatt-hour)
077-0039	City Utilities of Springfield Missouri John Twitty Energy Center	2023	1	6,802	12,724	952,625	2,076,707
			2	5,922		1,124,082	
		2024	1	6,785	14,315	968,707	2,426,536
			2	7,530		1,457,829	

First, the air program evaluated each unit's operating time and gross load production. The data in Table 3 shows that from 2023 to 2024, Unit 1 decreased operating time by 17 hours and gross



load increased by 16,082 megawatt-hours. Unit 2 increased operating hours by 1,608 and gross load by 333,747 megawatt-hours. Compared to Unit 1, Unit 2 experienced much larger operating times and gross load production increases, however, these increases do not result in similarly substantial increases in SO<sub>2</sub> emissions. Unit 2 is equipped with an SO<sub>2</sub> scrubber, and Unit 1 is not, resulting in lower SO<sub>2</sub> emissions per megawatt-hour produced from Unit 2 than from Unit 1.

Next, the air program evaluated the plant-wide total operating time and the plant-wide total gross load production. The data in Table 3 shows that, from 2023 to 2024, the total operating time increased by 1,591 hours and the total gross load increased by 349,829 megawatt-hours.

The operational hours and gross load production, on a unit-specific and plant-wide basis, indicate that the year-to-year variability in electricity production at the facility is the primary cause of the SO<sub>2</sub> emissions increase.

### 3. Recommendations Regarding Updated Modeling

According to 40 CFR 51.1205(b)(1), the air program is required to provide a recommendation regarding the need for updated modeling to characterize air quality in the areas surrounding the DRR Modeled Sources to determine if the areas continue to meet the 2010 SO<sub>2</sub> Standard. The air program recommends that no updated modeling is needed for any facility listed in Table 1.

The air program's recommendation is based on comparing the 2024 actual emissions to the modeled average emissions used in the initial attainment designations, as shown in Table 4. The modeled average emissions demonstrated attainment with the 2010 SO<sub>2</sub> Standard. Therefore, if actual emissions are less than those used in the modeling analysis that demonstrated attainment, it is reasonable to assume that an updated modeling analysis will similarly demonstrate continued attainment. In 2024, actual emissions at all four facilities were less than the average annual modeled emissions. This supports a recommendation for no updated modeling at any of these sources.

*Table 4: Comparison of Data Used in the Initial Attainment Demonstration and 2024 Data*

Facility County- Plant ID	Facility Name	Emissions Data Used in the Initial Attainment Designations			Current Data	
		Maximum Modeled Design Value (ppb)	Years of Modeled Emissions Data	Average Annual Modeled SO <sub>2</sub> Emissions (tons)	2024 Actual SO <sub>2</sub> Emissions (tons)	Comparison – Modeled Emissions vs. 2024 Actual Emissions (tons)*
189-0010	Ameren Missouri Meramec Energy Center	52.98 <sup>^</sup>	2013- 2015 <sup>^</sup>	5,541 <sup>^</sup>	0	-5,541
097-0001	Empire District Electric Company Asbury Plant	67.5	2012-2014	6,695	0	-6,695
077-0039	City Utilities of Springfield Missouri John Twitty Energy Center	42.9	2013-2015	2,759	2,538	-221

Facility County- Plant ID	Facility Name	Emissions Data Used in the Initial Attainment Designations			Current Data	
		Maximum Modeled Design Value (ppb)	Years of Modeled Emissions Data	Average Annual Modeled SO <sub>2</sub> Emissions (tons)	2024 Actual SO <sub>2</sub> Emissions (tons)	Comparison – Modeled Emissions vs. 2024 Actual Emissions (tons)*
175-0001	Thomas Hill Energy Center Power Division Thomas Hill	52.1	2013-2015	16,582	10,485	-6,097

\* A positive value in the last column indicates the 2024 emissions were higher than the average annual modeled emissions; a negative value indicates 2024 emissions were lower than the average annual modeled emissions.

^ The Ameren Missouri Meramec Energy Center 2013 to 2015 average modeled emissions only include the average actual emissions from Units 3 and 4 during these three years. The 2013 to 2015 designations modeling for the Ameren Missouri Meramec Energy Center used 2013 to 2015 actual emissions from Units 3 and 4 and natural gas combustion in Units 1 and 2. In 2016, the facility accepted an enforceable permit condition requiring exclusive use of natural gas in Units 1 and 2.

The air program considered the following facility-specific details in developing the recommendations regarding the need for additional modeling for all facilities listed in Table 1.

*3.1 Ameren Missouri Meramec Energy Center, St. Louis County – County-Plant ID 189-0010*

This facility had no SO<sub>2</sub> emissions in 2024. Therefore, the air program recommends that no additional modeling is needed for the area surrounding this facility.

*3.2 Empire District Electric Company Asbury Plant, Jasper County – County-Plant ID 097-0001*

This facility had no SO<sub>2</sub> emissions in 2024. Therefore, the air program recommends that no additional modeling is needed for the area surrounding this facility.

*3.3 City Utilities of Springfield Missouri John Twitty Energy Center, Greene County – County-Plant ID 077-0039*

This facility's 2024 actual SO<sub>2</sub> emissions are 221 tons less than the average annual modeled emissions from 2013-2015. This is an 8 percent decrease from the average annual modeled emissions used in the original attainment designation. Therefore, the air program recommends that no additional modeling is needed for the area surrounding this facility.

3.4 *Thomas Hill Energy Center Power Division Thomas Hill, Randolph County –  
Plant ID 175 0001*

This facility's 2024 actual SO<sub>2</sub> emissions are 6,097 tons less than the average annual modeled emissions from 2013-2015. This is a 37 percent decrease from the average annual modeled emissions used in the original attainment designation. Therefore, the air program recommends that no additional modeling is needed for the area surrounding this facility.

## **4. Public Participation**

In accordance with 40 CFR 51.1205(b), the air program will make the final stand-alone report available for public inspection and review on the air program's website. The final report is also available for review at the Missouri Department of Natural Resources, Air Pollution Control Program, 1659 East Elm St., Jefferson City, Missouri.

The air program is also making the proposed version of the report available for public review and comment prior to finalizing it, specifically –

- Notice of the availability of the proposed stand-alone ongoing data requirements report was posted on the department's public notice website by May 5, 2025.
- The air program opened a 30-day public comment period for the proposed report on May 5, 2025, after posting it on the website. The public comment period closed on June 5, 2025.
- After posting the proposed report, the air program sent an email announcement to notify the public of the availability of the report and the corresponding public inspection and comment period. Email recipients included all individuals who have signed up to receive email updates for air program public notices.

## **Conclusion**

This report satisfies the air program's obligation to submit an annual ongoing DRR report in 40 CFR 50.1205(b). The report includes an evaluation of the most current year of emissions data at applicable facilities, an assessment of the cause of any SO<sub>2</sub> emission increases from the previous year at these facilities, and the air program's recommendations regarding the need for additional modeling to evaluate the continued attainment status for the areas surrounding these facilities. The air program recommends that no additional modeling is needed for any of the DRR Modeled Sources.